CANusb

CAN bus USB Interface for Vehicle Electronics

Data Sheet

Compact Vehicle Interface

Most ECUs in today's onboard vehicle networks use the CAN bus as a communication medium for onboard and diagnostic data. Easy-to-use access from the PC to the CAN bus is required for all kinds of applications. CANusb is a powerful hardware interface perfect for use in precisely such cases. The Plug&Play functionality of the USB interface ensures simple handling. This is of particular advantage when used in mobile operations.

Areas of Implementation and Applications

In the ECU Engineering, Simulation, Test and Validation sectors, the CANusb supports a wide range of communication applications. It allows parallel access to several ECUs on one CAN bus – this is particularly important for diagnostic and test applications. The standard CANusb design enables inexpensive access to CAN high-speed networks. CANusb-CAR is equipped with CAN high-speed and CAN low-speed transceivers for use with all kinds of ECUs. Transceiver switching is controlled by software and thus enables simple and flexible use even with different applications.

Advantages

CAN APIs

The CAN-API, which is standard for all CAN interfaces from Softing, provides powerful communication mechanisms for CAN applications. Local buffering and preprocessing on the VCI result in high performance and a reduction of time-critical tasks for the PC. Special automation APIs, such as CANopen or DeviceNET-API, are also available.

D-PDU API

The standardized programming interface provides applications with powerful multi-channel communication mechanisms with vehicle protocols, such as Diagnostics on CAN (ISO 15765) and UDS (ISO 14229). It also allows integration into diagnostic systems in accordance with ISO 22900 (MVCI).
D-PDU API is available upon request.

Scalability

If your application requires more than one CAN bus at any time, the number of communication channels available at the PC can quickly be extended. This is simple to organize by combining the existing CANusb interface with further CAN or EDIC® interfaces from Softing.

Flexibility

Combining CANusb with appropriate API software enables compact solutions for all kinds of communication applications. The standardized Softing CAN-L2-API thus supports reliable CAN communication at Layer2 in a simple way. The optional D-PDU API software makes communication channels with higher diagnostic protocols available to applications via the standardized API and thus relieves the application of standard tasks.

An Overview of Features

- Active card with its own microcontroller
- 1 CAN bus channel
- Standard design with CAN high-speed transceiver
- Product variant CANusb-CAR available with an additional integrated CAN low-speed transceiver, can be switched via software
- Local buffering and preprocessing
- High performance, reduces the number of time-critical tasks the PC has

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Technical Data

Format	110 mm x 55 mm x 25 mm
Power supply	5V (via USB interface)
Current consumption	max. 310 mA
Mikrocontroller	Infineon C165
Program/data memory	256 kB Flash, 256 kB RAM
PC interface	USB V1.1, 12 Mbit/sec
Vehicle interfaces	■ 1 x CAN at D-Sub 9 connector, in acc. with CiA standard ■ Galvanically isolated from the PC interface ■ Variable transceiver package depending on the product variant: – CANusb: Transceiver for CAN high-speed (in acc. with ISO 11898) – CANusb-CAR: Transceiver for CAN high-speed (in acc. with ISO 11898) and CAN low-speed (TJA1053 or compatible), can be switched via software
CAN-Controller	SJA1000
Temperature range	Operation: 0 ... +55 °C, Storage: -25 ... +85 °C
EMC conformity	■ Noise emission: EN 55022, EN 55011 Class A and EN 61000-6-4 (industrial sector) ■ Interference immunity: EN 61000-6-2 (industrial sector) ■ FCC part 15 subpart B limit A (industrial sector)

Delivery Scope

- CANusb hardware
- USB cable (1m)
- CD with CAN-API software, manual as PDF file and X-Analyser Appetizer

System Requirements

- Operating system Windows™ 7, Vista, XP

Software (optional)

- Diagnostic Tool Set (DTS)
- D-PDU API Software in acc. with ISO 22900-2 (upon request)

Product Variants / Order Numbers

CANusb
- CANusb hardware with CAN high-speed transceiver

CANusb-CAR
- CANusb hardware with transceiver for CAN high-speed and CAN low-speed, can be switched via software

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